

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 07757 PCT	FOR FURTHER ACTION	
	See item 4 below	
International application No. PCT/EP2004/014318	International filing date (<i>day/month/year</i>) 16 December 2004 (16.12.2004)	Priority date (<i>day/month/year</i>) 19 December 2003 (19.12.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant CARL ZEISS JENA GMBH		

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><input checked="" type="checkbox"/></td> <td style="width: 15%;">Box No. I</td> <td style="width: 70%;">Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>																								

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 29 August 2006 (29.08.2006)</p> <p>Authorized officer Ellen Moyse e-mail: pt05@wipo.int</p>
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT
TRANSLATION

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year) See form PCT/ISA/210
Applicant's or agent's file reference 07757 PCT		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2004/014318	International filing date (day/month/year) 16.12.2004	Priority date (day/month/year) 19.12.2003
International Patent Classification (IPC) or both national classification and IPC H04N1/047, G02B21/00, G06T7/00		
Applicant CARL ZEISS JENA GMBH		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement

Novelty (N)	Claims	1–15	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1–15	NO
Industrial applicability (IA)	Claims	1–15	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: US-A-6 037 583

D2: US-B-6 650 441

D3: EP-A-0 883 278

D4: US-A-6 032 167

D5: US-A-2002/083609

D6: US-A-4 689 491

Regardless of the lack of clarity mentioned below, the subject matter of claims 1 to 15 does not involve an inventive step within the meaning of PCT Article 33(3), which means that the requirements of PCT Article 33(1) are not met.

A method for scanner control in at least one scan axis in a laser scanning microscope, with forward and backward scans, is known from document D1 (see particularly the

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abstract and claim 13).

Document D2 discloses the practice of comparing subregions of an image from a forward with subregions of the image from a backward scan and determining a correction value for scanner actuation from the difference (see figure 16 and column 7, line 65 to column 8, line 47, in particular).

Both documents are concerned with the problems of bidirectional scanner actuation. A person skilled in the art would consider the method known from document D2 of interest for LSM scanner actuation, despite the fact that document D2 describes a printer/scanner combination, because the same or similar mechanical problems are responsible for the differences between forward and backward scans.

The subject matter of claim 1 therefore obviously follows from the combination of the disclosures in documents D1 and D2.

The subject matter of claim 1 also obviously follows from the combination of the disclosures in documents D1 and D3. Figure 2 and column 3, line 37 to column 6, line 5 of document D3 describe, like document D2, the determination of a correction value for scanner actuation for a printer/scanner combination.

The additional features of claims 2 and 3 are inevitably suggested by the aforementioned disclosures because the forward and backward scans are stripes running parallel

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Box No. V **Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**
to the edge of the image.

The fact that the longitudinal axis of the stripes is at right angles to the direction of the scan lines is suggested by figure 14 in document D2.

The use of correlation calculations, particularly in two axes, in order to identify shifts between image regions is known from document D4 (see particularly column 1, line 55 to column 2, line 38). The additional features of claims 5 and 6 are therefore of no inventive significance.

The combination of differences to form a difference curve for ascertaining a correction for scanner actuation signals is suggested by the disclosure in document D5 (see particularly figure 3 and paragraphs [0055] and [0056]). The additional features of claim 7 are therefore of no inventive significance.

The additional features of claims 8 and 11 are of no inventive significance, in consideration of the disclosure in document D1 (see claims 1 and 7, for example).

The additional features of claims 9 and 10 are suggested by column 6, lines 10 to 15 in document D2, and are therefore of no inventive significance.

The additional features of claims 12 and 13 are of no inventive significance, for the reasons indicated above for claims 2 and 3.

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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The additional feature of claim 14 is suggested by figure 9 and column 10, lines 48 to 57 in document D6.

The additional feature of claim 15 is suggested by figure 6 and column 4, lines 60 and 61 in document D2; and also claims 1 and 8 in document D3.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 1, 6 and 14 are not clearly defined and therefore do not meet the requirements of PCT Article 6.

Claim 1

It is not clear why the images from a forward scan "of two or more subregions" (wording of the claim: "of at least one subregion") are compared with the second image of the subregion generated by a backward scan, or how this proceeds (to which of the subregions scanned in the forward scan does "of the subregion" relate? Where in the description is there a disclosure of such a comparison between an image from a backward scan and several images from a forward scan?)

Claim 6

This claim refer to "one of the preceding claims". The word "correlation" appears for the first time in claim 5, however.

Claim 14

It is not clear how the sectional direction for the image elements can have an angle relative to just one of the scan axes ("to at least one scan axis").